REMARKS

Claims 1-80, 113-148, and 150-166 are pending in the application. Of these claims, claims 47-80 and 148 were withdrawn from consideration in response to the Restriction Requirement that was dated March 17, 2005, and which was re-mailed on August 10, 2005.

Claims 1-46, 146, and 147 have been allowed.

Claims 113-145, and 150-166 stand rejected.

Claims 153 and 157-159 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 5,854,899 issued to Callon et al. ("Callon"). Claims 35, 46, 113-145, and 150-166 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,282,170 issued to Bentall et al. ("Bentall") in view of U.S. Patent No. 5,737,319 issued to Croslin et al. ("Croslin"). Claims 154-156 stand rejected under § 103(a) as being unpatentable under § 103(a) over Callon in view of U.S. Patent No. 5,590,118 issued to Nederlof ("Nederlof").

While not conceding that the cited references qualify as prior art, but instead to expedite prosecution, Applicant has chosen respectfully to address the rejections as follows. Applicant reserves the right, for example in a continuing application, to establish that the cited references do not qualify as prior art as to an invention embodiment previously, currently, or subsequently claimed. Applicant offers that the pending claims are allowable in view of the remarks presented herein.

Formal Matters

Applicant expresses gratitude to the Examiner for the telephone discussion between the Examiner and Applicant's undersigned representative on October 17, 2007. In that discussion, the Examiner clarified that claims 47, 62, 63, 67, 73, 74, and 78 are withdrawn from consideration. The Examiner explained that the indications of allowance of these claims (on the Office Action Summary and on p. 10) were clerical errors.

Objections to the Claims

The Office Action includes objections to claims 62, 67, 73, and 78 and indicates that these claims include informalities. The nature of the objections is not clear. For example, the Office Action indicates that it is an informality that "claim 62 depends on claim 61 which has been withdrawn." Applicant respectfully submits that one withdrawn claim may depend on another withdrawn claim. The objected claims are currently withdrawn from consideration, and they each depend on claims that are also withdrawn from consideration. Applicant is not aware of any informality in the claims that arises from their status as withdrawn claims or as dependent claims.

It is possible that the Office Action objects to Applicant's amending of these withdrawn claims, since each of the objected claims was amended in Applicant's previous Response, dated June 18, 2007. If so, Applicant respectfully submits that the amending of withdrawn claims is an acceptable practice. Indeed, 37 C.F.R. § 1.121 indicates that withdrawn claims may be amended, and includes instructions for indicating the status of claims that are being amended while they are withdrawn from consideration. **According to Rule 1.121(c)(2), "[i]f a withdrawn claim is currently amended, its status in the claim listing may be identified as 'withdrawn—**

currently amended.' " In Applicant's previous response, the amendments to withdrawn claims were clearly marked in this manner.

Applicant believes that these remarks are responsive to the objections to the claims. If Applicant has misunderstood the nature of the objections, Applicant respectfully requests a clarification of the objections.

Applicant respectfully submits that the claims do not include informalities. Claims 47-80 and 148 have been withdrawn from consideration, and include dependencies as presented in the above Listing of Claims. In view of the above remarks, Applicant respectfully requests that the objections to the claims be withdrawn.

Rejections under 35 U.S.C. § 112, second paragraph

Claims 113 and 160 stand rejected under § 112, second paragraph. The nature of the rejection is not clear. The Office Action appears to object to the syntax of the claims and concludes that these claims do not meet the requirements of § 112, sixth paragraph.

It is not clear whether this rejection based on § 112, second paragraph, or whether the rejection is based on § 112, sixth paragraph. Nonetheless, Applicant endeavors to respond fully to the rejection.

Applicant respectfully submits that the syntax of the claims does not render the claims unpatentable under § 112, second paragraph. For example, claim 113 includes a limitation, which starts on line 2, of:

> means for broadcasting a plurality of resource request packets to a plurality of nodes in a optical network.

With regard to this limitation, the Office Action expresses a concern on p. 2 that:

> The word "means" is preceded by the word(s) indicated in lines "2, . . ." in an attempt to use a "means" clause to recite a claim element as a means for performing a specified function.

Applicant respectfully notes that the above passage from the Office Action includes a typographical error. Contrary to the statement in the Office Action, the word "means" in this claim limitation is not *preceded* by any words that indicate a function. The Office Action appears to argue that the word "means" in the above limitation is *followed* by words that indicate a function. The Office Action continues:

> However, since no function is specified by the word(s) preceding "means," it is impossible to determine the equivalents of the element, as required by § 112, sixth paragraph.

Applicant respectfully disagrees with this conclusion. Although, as noted above, the word "means" is not preceded by any specified function, the word "means" is indeed *followed* by a specified function. In the above example, the "means" is described as being a "means for broadcasting a plurality of resource request packets to a plurality of nodes in a optical network." Applicant respectfully submits that this language clearly sets forth a means for performing a specified function. In this case, the specified function is a function of "broadcasting a plurality of resource request packets to a plurality of nodes in a optical network." This limitation is clear and definite, and the corresponding structure, material, or acts can therefore be readily found in the specification. Similarly, the other limitations of claim 113 are also clear and definite. Applicant respectfully submits that claim 113 and all claims dependent therefrom are therefore patentable under § 112, second paragraph and sixth paragraph. Similarly, claim 160 and all claims dependent therefrom are also patentable under § 112, second paragraph and sixth paragraph.

Rejections under 35 U.S.C. § 102(e)

Claims 153 and 157-159 stand rejected under § 102(e) as being anticipated by Callon. Applicant respectfully submits that the claims are allowable under § 102(e) because the cited portions of Callon fail to disclose each of the limitations of the claims.

For example, independent claim 153 is directed to a method for restoring a virtual path in an optical network. The method includes receiving a resource request packet at an intermediate node and dynamically determining whether the intermediate node has a resource necessary to support the virtual path. The method also includes, **if the intermediate node lacks the resource necessary to support the virtual path, "preventing said resource request packet from being forwarded."** At least this limitation is not disclosed in the cited portions of Callon.

With regard to this limitation, the Office Action on p. 8 cites steps 152 and 156 of FIG. 4 in Callon. These steps are discussed in the following passages of Callon:

> Referring to FIG. 4, a flow diagram illustrates the processing of a packet to be forwarded. The packet is received at step 150. Step 152 determines whether an existing and feasible virtual circuit exists for forwarding the packet. The calculations used to determine feasibility and efficiency are described below. Preferably, these feasibility and efficiency calculations are performed as background processing tasks such that the calculation results are immediately available when a packet is received for forwarding. Similarly, the steps shown in FIG. 3 increase the probability that an existing feasible and efficient virtual circuit will already be established to the packet's destination.
>
> If a feasible and efficient virtual circuit exists, then step 154 forwards the packet using the existing feasible and efficient virtual circuit. **Otherwise, the packet is buffered at step 156** while a new virtual circuit is established to the optimal next hop router at step 158. **Step 160 then forwards the packet** using the newly established virtual circuit.

(Callon at 7:50-67, emphasis added.)

Step 152 of FIG. 4 in Callon asks "Is There an Existing Feasible and Efficient VC?". If the answer to this query is "No," then step 156 of FIG. 4 in Callon is used to "Buffer Packet."

The Office Action equates Callon's buffering of a packet with Applicant's "preventing said resource request packet from being forwarded." However, the Office Action's characterization of Callon is incorrect. Callon's buffering in step 156 does not prevent the packet from being forwarded. As discussed in the above-quoted passages, and as evident from FIG. 4 of Callon, the buffering in step 156 is a temporary delay before the packet is intentionally forwarded. This operation is evident from the flow diagram in FIG. 4. This figure shows that step 156 is followed by step 158, which establishes a new VC. Step 158, in turn, is followed by step 160, which operates to "Forward Packet Using New VC."

This straightforward chain of events in FIG. 4 of Callon is described in the narrative of the reference. The above-quoted passage clearly sets forth that a forwarding operation follows the buffering operation. According to this passage, the buffering in step 156 occurs while a new virtual circuit is established in step 158. **Callon's step 160 then forwards the packet using the newly established virtual circuit.**

The cited portions of Callon clearly teach that a received packet is forwarded. The forwarding can occur in step 160, discussed above, if there is no existing feasible and efficient VC. If, on the other hand, there is an existing feasible and efficient VC, then the forwarding occurs in step 154. The cited portions of Callon teach that, either way, the received packet is forwarded. This forwarding is **not** prevented in the cited portions of Callon.

In contrast, Applicant's claim 153 includes "preventing said resource request packet from being forwarded" if the intermediate node lacks the resource necessary to support the virtual path. This limitation is not disclosed in the cited portions of Callon because Callon does not teach the preventing of the forwarding of a resource request packet.

At least for this reason, Applicant's independent claim 153 is allowable under § 102(e). Claims 157-159 depend on claim 153 and are therefore also allowable under § 102(e), being dependent on an allowable base claim.

Rejections under 35 U.S.C. § 103(a)

Claims 35, 46, 113-145, and 150-166 stand rejected under §103(a) as being unpatentable over Bentall in view of Croslin. Claims 154-156 stand rejected under § 103(a) as being unpatentable over Callon in view of Nederlof.

Applicant respectfully submits that the claims are allowable under § 103(a) because (1) the Office Action fails to establish an appropriate suggestion or motivation for making the proposed combination of Bentall and Croslin, (2) the teachings within Bentall and Croslin would dissuade a person having ordinary skill in the art from combining these references, (3) the cited portions of the references, taken either individually or in combination, fail to disclose each limitation of the pending claims, and (4) the pending rejections rely fatally on flawed assertions of inherency.

No suggestion or motivation for the proposed combination of Bentall with Croslin.

Applicant submits that the Office Action fails to set forth a prima facie case of obviousness because the Office Action fails to establish a suggestion or motivation, found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. The Office Action proposes on p. 4 that the motivation for combining Bentall and Croslin **"is to** avoid the dependen[ce] of the limit preplanned routes and reduce the time delay." However, this proposed motivation

would not commend a person having ordinary skill in the art to make the proposed combination of Bentall and Croslin, because Bentall itself includes features that satisfy the proposed motivation. Indeed, the motivation proposed in the Office Action is a goal achieved by the Bentall system.

Bentall provides a system that interrogates nodes on a route to gather information on possible alternative routes. (Bentall at 3:9-11.) Because of this feature, **"there is no need [in Bentall] to have preplanned preferred routes or centralised knowledge of the configuration of the network."** (*Id. at* 3:11-15 (emphasis added).) Bentall also teaches techniques for making initial, possibly non-optimized, restoration routes. "The restoration route may be completed without delay. If it can be optimised subsequently, it will be changed, to eliminate any loops, or to use routes further away from the failed part, to avoid congestion close to the failed part." (*Id. at* Abstract.) Thus, a person having ordinary skill in the art would have no need to look beyond Bentall, and would in particular have no need to turn to Croslin, with the proposed motivation of avoiding a dependence on or limit of preplanned routes, or reducing time delay, since these goals are achieved adequately and completely in Bentall.

Further, it is not clear how the teachings of Croslin would be used to augment these goals, since these goals are not discussed in Croslin. The Office Action does not set forth any explanation of how the Croslin system would further these goals of the Bentall system. Applicant also does not see any such advantage from combining the Bentall and Croslin systems.

The teachings within Bentall and Croslin would dissuade a person having ordinary skill in the art from combining these references.

Indeed, Bentall and Croslin use contrary approaches to restoring communications. As a result, it is not clear how a combination of the Bentall and Croslin systems could be made. The cited Croslin procedure is at odds with the teachings of Bentall, since **Croslin notes that "[d]ynamic network restoral processes require a timely and accurate portrayal of the network topology" at the time of network outages.** (Croslin at 1:53-57 (emphasis added).) In Croslin, a network topology database is maintained and frequently updated. The database reflects the current real-time physical connectivity of the Croslin communications network. (*Id. at* 2:60-63.)

In contrast, as noted above, Bentall particularly teaches the gathering of information to avoid such reliance on preplanned routes or centralised configuration information. "Gathering information on possible alternative routes means there is no need to have preplanned preferred routes or centralised knowledge of the configuration of the network, and thus the optimisation can be adaptive and easily take account of changes in network configuration." (Bentall at 3:9-15.)

Thus, the teachings of Bentall and Croslin are directed at cross purposes, with Bentall teaching away from Croslin. Where Bentall describes techniques for avoiding a need for knowledge of a network topology, Croslin teaches techniques for determining network topology in support of processes that specifically require such knowledge. A person having ordinary skill in the art would therefore not use these references in furtherance of each other's teachings, and would certainly not combine these references—even with the Office Action's proposed goal of "to avoid the dependen[ce] of the limit preplanned routes and [to] reduce the time delay." The

proposed motivation would not in fact lead a person having ordinary skill in the art to make the combination of Bentall and Croslin, because the references use disparate and incompatible methods of performing network restoral. On noting that Bentall avoids "preplanned preferred routes or centralised knowledge," a skilled person would turn away from restoral procedures such as Croslin's use of a database for "a timely and accurate portrayal of the network topology." These teachings cannot be easily reconciled with each other, and a skilled person would readily recognize that they can not be combined in the manner suggested by the Office Action. For this reason as well, the pending claims are allowable under § 103(a).

The cited references do not disclose each element of the claims.

Each of claims 35, 46, 113-145, and 150-166 include limitations that are not disclosed in the cited portions of the references, as explained in the following discussions of the claims.

Claims 35, 46, and 151.

Applicant notes that claims 35, 46, and 151 depend on independent claim 1, which has been allowed. The Office Action indicates on pp. 5 and 6 that claims 35, 46, and 151 stand rejected under § 103(a). Applicant believes that these rejections under § 103(a) are the result of a clerical error, since the claim on which they depend does not stand rejected under § 103(a).

More specifically, the Office Action does not include any argument or citations that would indicate that the limitations of claim 1, which has been allowed, are found in the cited portions of the references. These limitations are included in claims 35, 46, and 151, since these claims depend on claim 1. Applicant submits that the cited portions of the references indeed do

not disclose each limitation of allowed claim 1. At least for this reason, Applicant respectfully submits that claims 35, 46, and 151 are allowable under § 103(a).

Claims 113-145, 150, 152, and 160-166.

Independent claim 113 includes a limitation of "means for preventing a request packet from being forwarded, operating in response to said means for dynamically identifying said intermediate node without resources." The Office Action ignores this limitation. There is no discussion of this limitation in the explanation of the rejection of independent claim 113.

Applicant respectfully submits that the cited portions of the references fail to disclose this limitation of independent claim 113. At least for this reason, independent claim 113 is allowable under § 103(a). Claims 114-145, 150, and 152 depend on claim 113 and are therefore also allowable under § 103(a), being dependent on an allowable base claim. At least for similar reasons, claims 160-166 are also allowable under § 103(a).

Claims 153-159: rejection based on Bentall and Croslin.

The Office Action indicates on p. 3 that claims 153-159 are among the claims rejected under § 103(a) over Bentall in view of Croslin. Applicant believes that this indication is a clerical error, since the subsequent discussion does not address claims 153-159. (Applicant notes that claims 153a d 157-159 stand rejected under § 102(e), and that these rejections under § 102(e) have been addressed above.)

The Office Action does not include any argument or citations that would indicate that the limitations of claims 153-159 are found in the cited portions of Bentall and Croslin. Applicant submits that the cited portions of these references indeed do not disclose each limitation of

claims 153-159. At least for this reason, Applicant respectfully submits that claims 153-159 are allowable under § 103(a) over Bentall and Croslin.

Claims 154-156: rejection based on Callon and Nederlof.

Claims 154-156 depend on claim 153. Applicant notes that the shortcomings of Callon noted above, with respect to the rejection of independent claim 153 under § 102(e), are not remedied in Nederlof, because the cited portions of Nederlof also do not teach the limitation of "preventing said resource request packet from being forwarded."

Moreover, Bentall and Croslin also do not remedy this shortcoming of Callon. At best, Bentall discloses the use of database for gathering information on possible alternative routes, and a "chooser" node that finds a shortest route with sufficient capacity for a path, as set forth in the following passage.

> The chooser acknowledges the shortest route for each path with sufficient capacity for the path, by sending a message back to the sender, at step 142 of FIG. 9. The database of alternative routes can be amended to reflect the reduced spare capacity available for other virtual paths, at step 143. The chooser continues through its list of affected virtual paths, until all have been restored, or until all remaining virtual paths are blocked by a lack of spare capacity on alternative routes, as shown at step 144.

(Bentall, at 8:14-22.)

The above cited passage describes the operation of the chooser node in Bentall. The chooser node addresses virtual paths sequentially in a list, until either all the virtual paths have been restored or no additional virtual paths can be restored due to a lack of spare capacity.

Bentall does not, however, disclose that any component in the system prevents the forwarding of a request packet. In particular, Bentall does not teach that any aspect of the

system prevents the forwarding of a request packet, with the preventing performed in response to the identifying of an intermediate node without resources.

Various implementations of the present invention prevent such forwarding in order to prevent "bad" instances of a packet from circulating around a network for extended periods of time. (Specification at 21.) Such undesired circulating is an example of a "broadcast storm," which was discussed on p. 25 of the parent application (U.S. Application No. 09,232,397, which was incorporated by reference). The prevention of forwarding may thus provide some advantages in various implementations of Applicant's invention.

At least for this reason, claims Claims 154-156 are allowable under § 103(a).

Dependent claim 155.

In addition, Applicant notes that claim 155 is additionally allowable under § 103(a) because claim 155 includes a limitation that **"said resource request packet comprises fields for identifying at least one previously traversed link."** This limitation is also not disclosed in the cited portions of the references.

With regard to this limitation, the Office Action cites the IDA field of Nederlof. However, Nederlof's IDA field does not identify a previously traversed link. Instead, Nederlof's IDA field "is a first address field **containing the address of the switching node** which has detected the failure and **from which the request message originates**." (Nederlof at 10:17-19.) The IDA field in Nederlof thus falls short of meeting Applicant's limitation for at least two reasons.

First, Nederlof's IDA field identifies a "switching node," which is not a link. At best, the switching node indicates one end of a link. Being bereft of information regarding the other side of the link however, the IDA field can not be seen as identifying a link. The IDA field thus falls short of meeting Applicant's limitation of "fields for identifying at least one previously traversed link."

Second, the node identified in Nederlof's IDA is not a "traversed" node. Instead, the IDA field contains the address of the switching node "from which the request message originates." Since this node is an originating node, it would not be understood by a person having ordinary skill in the art as a traversed node. Thus, even if Nederlof's "node" could be understood as a "link" (a proposition with which Applicant does not agree), Nederlof's switching node from which a request message originates could not be seen as a "previously traversed link." At least for this additional reason, the cited IDA field falls short of meeting Applicant's limitation of "fields for identifying at least one previously traversed link."

In view of these shortcomings of the cited features of the references, Applicant respectfully submits that claim 155 is additionally allowable under § 103(a).

Dependent claims 131-134, 142, and 143.

The Office Action ignores various limitations of dependent claims 131-134, 142, and 143. With regard to these claims, the Office Action merely concludes that their limitations "have been addressed in the [discussion of] claim 1." Applicant respectfully disagrees (1) because claim 1 has been allowed, and the limitations of claim 1 are not discussed in the Office Action, and (2) because claims 131-134, 142, and 143 include limitations that are not included in

independent claim 113, on which they depend. At least for these reasons, dependent claims 131-134, 142, and 143 are additionally allowable under § 103(a).

The pending rejections do not adequately support the contention of inherency with regard to claims 113, 119, 120, 125, 127-129, 138-140, and 160.

With respect to Applicant's dependent claims 113, 119, 120, 125, 127-129, 138-140, and 160, the Office Action proposes on pp. 3-6 that various limitations these claims would be "inherently" achieved or would be "well known" in the art. The reliance in the Office Action on the supposed inherency of these limitations is crucial. Since the Office Action does not propose that the cited references disclose these limitations, the rejections necessarily depend on the supposed inherency. The reliance on the supposed inherency of these limitations causes the rejections to fall, because the Office Action fails to support the assertions of inherency.

The Office Action fails to meet the appropriate standards for an assertion of inherency. According to the Manual of Patent Examining Procedure (Ed. 8, Rev. 5, Aug. 2006), "[t]o establish inherency, the extrinsic evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill." (MPEP § 2112(IV) (internal quotations omitted).) The Office Action does not meet this standard, since it merely asserts the inherent nature of various features without explanation.

As an example, Applicant's claim 119 considers a situation in which a local physical port failure occurs between a first node and an adjacent node. Rather than involving yet another node in the restoration, the method of claim 119 seeks a different physical port that is available between these two nodes, and provisions the virtual path to that available physical port. The

Office Action asserts on p. 6 that in view of Bentall, this provisioning is inherent: a "reroute to alternative route would inherently switch to another physical port." This assertion of inherency is made without support. It is also plainly incorrect, since a rerouting to an alternate route would not necessarily involve a switch of ports in Bentall: those nodes could conceivably use the same ports at the endpoints of a path for both an original route and for an alternate route. The proffered arguments thus do not support the supposed inherency of provisioning a virtual path to an available and different physical port of a link between adjacent nodes. Applicant therefore respectfully disagrees that the various limitations of claim 119 would inherently be met by the cited references.

Applicant also respectfully disagrees with the assertion of inherency with regard to the limitations of claims 113 and 160 at the bottom of p. 3 of the Office Action. If it is the Examiner's position that the rejection is based on a personal knowledge that these limitations are well-known, Applicant requests that the facts be supported by an affidavit from the Examiner in accordance with MPEP § 2144.03(C) and 37 C.F.R. § 1.104(d)(2).

Applicant respectfully submits that the currently pending rejections of claims 113, 119, 120, 125, 127-129, 138-140, and 160 fail to meet the standards for a rejection under § 103(a), and that these rejections should therefore be withdrawn.

CONCLUSION

Applicant submits that all claims are now in condition for allowance, and a notice to that effect is solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the Examiner is invited to telephone the undersigned.

If any extensions of time under 37 C.F.R. § 1.136(a) are required in order for this submission to be considered timely, Applicant hereby petitions for such extensions. Applicant also hereby authorizes that any fees due for such extensions or any other fee associated with this submission be charged to deposit account 502306.

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on October 29, 2007.

Attorney for Applicant — Date of Signature: 2007Oct29

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